

# Eiko I. Fried, Ph.D.

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Psychological Methods, Department of Psychology

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## Education & Training

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- 2016-2017 Postdoctoral Research Fellow, University of Amsterdam, Psychological Methods (group of Denny Borsboom), The Netherlands.
- 2014-2016 Postdoctoral Research Fellow, University of Leuven, Faculty of Psychology and Educational Sciences, Research Group Quantitative Psychology & Individual Differences, (group of Francis Tuerlinckx), Belgium.
- 2015 Visiting Scholar, Arizona State University, Center for Evolution & Medicine, USA (6 weeks).
- 2010-2014 Clinical Psychology Ph.D. (summa cum laude), Cluster of Excellence Languages of Emotion at Free University Berlin, Germany (3.5 years).  
Thesis: "Covert Heterogeneity of Major Depressive Disorder: Depression Is More Than the Sum-Score of its Symptoms."
- 2011-2012 Visiting Scholar, University of Michigan, Departments of Psychology and Psychiatry, USA  
(2 terms, July-December 2011, August-December 2012).
- 2010 Magnetic Resonance Imaging Spring School, Bender Institute of Neuroimaging, Justus Liebig University Giessen, Germany (1 week).
- 2009-2010 Research Assistant, Berlin Alexithymia Research Group (Cluster of Excellence Languages of Emotion at Free University Berlin & Charité Psychiatry Berlin), Germany.
- 2005-2006 Academic exchange, University of Helsinki, Finland (6 months).
- 2003-2008 Psychology Diploma (BA+MA equivalent), Ludwig-Maximilians-University Munich, Germany.  
Thesis: "A Game-Theoretical Exploration of Evolutionary Theories of Depression"  
Concentrations: Clinical Psychology, Evolutionary Psychology.

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**Peer-reviewed Publications**

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Syntax, data and PDFs for publications available on [www.eiko-fried.com](http://www.eiko-fried.com); \* denotes shared first authorship. Publications ordered by year and authorship.

- Preprints **Fried, E. I.**, Eidhof, M. B., Palic, S., Costantini, G., Huisman-van Diijk, H. M., Bockting, C. L. M., Engelhard, I., Armour, C., Nielsen, A. B. S., Karstoft, K.-I. (submitted). Replicability and generalizability of PTSD networks: A cross-cultural multisite study of PTSD symptoms in four trauma patient samples. <https://osf.io/2t7qp>
- Epskamp, S. & **Fried, E. I.** A Tutorial on Regularized Partial Correlation Networks. <https://arxiv.org/abs/1607.01367>
- Borsboom, D., **Fried, E. I.**, Epskamp, S., Waldorp, L. J., van Borkulo, C. D., van der Maas, H. L. J., & Cramer, A. (2017). False alarm? A comprehensive reanalysis of “Evidence that psychopathology symptom networks have limited replicability” by Forbes, Wright, Markon, and Krueger. <https://osf.io/hmpm>
- 2017 **Fried, E. I.** & Cramer, A. O. J. (2017). Moving forward: challenges and directions for psychopathological network theory and methodology. *Perspectives on Psychological Science*. Preprint: <https://osf.io/bnekp>
- Fried, E. I.\***, van Borkulo, C. D.\*, Cramer, A. O. J., Boschloo, L., Schoever, R. A., Borsboom, D. (2017). Mental disorders as symptom networks of problems: a review of recent insights. *Social Psychiatry and Psychiatric Epidemiology*, 52, 1-10.
- Fried, E. I.** (2017). What are psychological constructs? On the nature and statistical modeling of emotions, intelligence, personality traits and mental disorders. *Health Psychology Review*, 11, 130-134.
- Fried, E. I.** (2017). Moving forward: how depression heterogeneity hinders progress in treatment and research. *Expert Review of Neurotherapeutics*, 17, 423-425.
- Fried, E. I.** (2017). The 52 symptoms of major depression: lack of content overlap among seven common depression scales. *Journal of Affective Disorders*, 208, 191-197.
- Santos, H.\*, **Fried, E. I.\***, Asafu-Adjei, J., & Ruiz, J. (2017). Network Structure of Perinatal Depressive Symptoms in Latinas: Relationship to Stress-Related and Reproductive Biomarkers. *Research in Nursing & Health*, 40, 218-228.
- Armour, C.\* **Fried, E. I.\***, Deserno, M. K., Tsai, J., & Pietrzak, R. H. (2017). A Network Analysis of DSM-5 posttraumatic stress disorder symptoms and correlates in U.S. military veterans. *Journal of Anxiety Disorders*, 45, 49-59.
- Haslbeck, J. M. B. & **Fried, E. I.** (2017). How Predictable are Symptoms in Psychopathological Networks? A Reanalysis of 17 Published Datasets. *Psychological Medicine*, advance online print.

Miloyan, B. & **Fried, E. I.** (2017). A reassessment of the relationship between depression and all-cause mortality in 3,604,005 participants from 293 studies. *World Psychiatry*, 16, 219-220.

Epskamp, S., Borsboom, D., **Fried, E. I.** (2017). Estimating psychological networks and their accuracy: a tutorial paper. *Behavioral Research Methods*, advance online print.

Dejonckheere, E., Brock, B., **Fried, E. I.**, Murphy, S., & Kuppens, P. (2017). Perceiving social pressure not to feel negative predicts depressive symptoms in daily life. *Depression and Anxiety*, advance online print.

Murphy, J., McBride, O., **Fried, E. I.**, & Shevlin, M. (2017). Distress, impairment and the extended psychosis phenotype: A network analysis of psychotic experiences in a US general population sample. *Schizophrenia Bulletin*, 1–28, advance online print.

2016 **Fried, E. I.** (2016). Are more responsive depression scales really superior depression scales? *Journal of Clinical Epidemiology*, 77, 4-6.

**Fried, E. I.**, van Borkulo, C. D., Epskamp, S., Schoevers, R. A., Tuerlinckx, F., & Borsboom, D. (2016). Measuring Depression over Time ... or not? Lack of Unidimensionality and Longitudinal Measurement Invariance in Four Common Rating Scales of Depression. *Psychological Assessment*, 28, 1354–1367.

**Fried, E. I.**, Epskamp, S., Nesse, R. M., Tuerlinckx, F., & Borsboom, D. (2016). What are 'good' depression symptoms? Comparing the centrality of DSM and non-DSM symptoms of depression in a network analysis. *Journal of Affective Disorders*, 189, 314-320.

**Fried, E. I.**, & Kievit, R. (2016). The volumes of subcortical regions in depressed and healthy individuals are strikingly similar: A reinterpretation of the results by Schmaal et al. *Molecular Psychiatry*, 21, 724-725.

Rhemtulla, M.\*, **Fried, E. I.\***, Aggen, S. H., Tuerlinckx, F., Kendler, K. S., & Borsboom, D (2016). Network analysis of substance abuse and dependence symptoms. *Drug and Alcohol Dependence*, 161, 230-237.

van Loo, H. M., Wanders, R. B. K., Wardenaar, K. J., & **Fried, E. I.** (2016). Problems with latent class analysis to detect data-driven subtypes of depression. *Molecular Psychiatry*, advance online print.

Beard, C., Millner A. J., Forgeard, M., **Fried, E. I.**, Hsu, J. K., Treadway, M., Leonard, C. V., Kertz, S., & Björgvinsson, T. (2016). Network Analysis of Depression and Anxiety Symptom Relations in a Psychiatric Sample. *Psychological Medicine*, 46, 3359-3369.

Heylen, J., van Mechelen, I., **Fried, E. I.**, & Ceulemans, E. (2016). Two-mode K-Spectral Centroid analysis for studying multivariate time profiles. *Chemometrics and Intelligent Laboratory Systems*, 154, 194-206.

- 2015 **Fried, E. I.**, & Nesse, R. M. (2015). Depression sum scores don't add up: Why analyzing specific depression symptoms is essential. *BMC Medicine*, 13, 1–11.
- Fried, E. I.** (2015) Problematic assumptions have slowed down depression research: why symptoms, not syndromes are the way forward. *Frontiers of Psychology*, 6, 1–11.
- Fried, E. I.**, Arjadi, R., Borsboom, D., Tuerlinckx, F., Cramer, A., Epskamp, S., Amshoff, M., Carr, D., Stroebe, M., & Bockting, C. (2015). From Loss to Loneliness: The Relationship Between Bereavement and Depressive Symptoms. *Journal of Abnormal Psychology*, 124, 256-265.
- Fried, E. I.**, & Nesse, R. M. (2015). Depression is not a consistent syndrome: an investigation of unique symptom patterns in the STAR\*D study. *Journal of Affective Disorders*, 172, 96–102.
- Fried, E. I.**, Nesse, R. M., Guille, C., & Sen, S. The differential influence of life stress on individual symptoms of depression in a longitudinal study of medical residents (2015). *Acta Psychiatrica Scandinavica*, 131, 465-471.
- Fried, E. I.**, Boschloo, L., van Borkulo, C. D., Schoevers, R. A., Romeijn, J.-W., Wichers, M. C., de Jonge, P., Nesse, R. M., Tuerlinckx, F., & Borsboom, D. (2015). Symptomics as a new research paradigm for psychiatry. *Frontiers in Psychiatry*, 6, 1–3.
- Costantini, G., Richetin, J., Borsboom, D., **Fried, E. I.**, Rhemtulla, M., & Perugini, M. (2015). Development of Indirect Measures of Conscientiousness: Combining a Facets Approach and Network Analysis. *European Journal of Personality*, 29, 548-567.
- 2014 **Fried, E. I.**, Tuerlinckx, F., & Borsboom, D. (2014). Mental health: more than neurobiology. *Nature*, 508, 458–458.
- Fried, E. I.**, & Nesse, R. M. (2014). The Impact of Individual Depressive Symptoms on Impairment of Psychosocial Functioning. *PLoS ONE*, 9 (2), e90311.
- Fried, E. I.**, Nesse, R. M., Zivin, K., Guille, C., & Sen, S. (2014). Depression is more than the sum score of its parts: individual DSM symptoms have different risk factors. *Psychological Medicine*, 44, 2067-2076.

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#### Book chapters

- 2017 **Fried, E. I.** (2017). Zung Depression Scale. In A. E. Wenzel (Ed.), *The SAGE Encyclopedia of Abnormal and Clinical Psychology*. New York, NY: SAGE Publications.

**Fried, E. I.** (2017). Psychopathological Networks. In A. E. Wenzel (Ed.), *The SAGE Encyclopedia of Abnormal and Clinical Psychology*. New York, NY: SAGE Publications.

Dejonckheere, E., & **Fried, E. I.** (2017). Bereavement. In V. Zeigler-Hill & T. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences*.

#### Other Publications

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- 2016 **Fried, E. I.**, Depressionsforschung im Stimmungstief – Gründe einer wissenschaftlichen Krise und mögliche Auswege. *In-Mind Magazin*.
- Fried, E. I.**, Dejonckheere, E., Tuerlinckx, F. (2017). Welke symptomen zijn het meest belangrijk bij depressie? Een netwerkanalyse van depressie. *Neurone*.
- 2015 **Fried, E. I.** (2015). Depression – more than the sum of its symptoms. *The Psychologist (The British Psychological Society)*, Vol. 29.
- 2014 **Fried, E. I.** (2014). Covert Heterogeneity of Major Depressive Disorder: Depression Is More Than the Sum-Score of its Symptoms. Dissertation.

#### Workshops

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- 2017 **Fried, E. I.** "Introduction to psychological networks" and "Markov Random Fields II: stability, replicability and challenges". Invited talks at *Psychological Networks Amsterdam Summer School*, Amsterdam, The Netherlands.
- Fried, E. I.** "Understanding the clinical utility of symptom networks". Invited 3-hour workshop, UK Psychological Trauma Society, Belfast, Northern Ireland.
- Fried, E. I.**, Dalege, J. "Psychological network analysis: estimation, inference, and stability". Invited 2-day workshop, Experimental Psychopathology meeting in Heeze, Belgium.
- Fried, E. I.**, de Schryver, M., & Epskamp, S. "Psychological network analysis: estimation, inference, and stability". Invited 3-day workshop, Ghent University, Belgium.
- Fried, E. I.** "Introduction to psychological networks". Invited talk at *Psychological Networks Amsterdam Winter School*, Amsterdam, The Netherlands.
- 2016 **Fried, E. I.** "Psychological network analysis: estimation, inference, and stability". Invited 1-day workshop, Hôpital Erasme, Brussels, Belgium.
- Fried, E. I.** & Epskamp, S. "Psychological network analysis: estimation, inference, and stability". Invited 1-day workshop, Utrecht University, Utrecht, The Netherlands.

**Fried, E. I.**, Deserno, M., & Epskamp, S. "Psychological network analysis: estimation, inference, and stability". Invited 2-day workshop, Harvard University, Cambridge, USA.

**Fried, E. I.**, Deserno, M., & Epskamp, S. "Psychological network analysis: estimation, inference, and stability". Invited 2-day workshop, Washington University, St. Louis, USA.

**Fried, E. I.** & Epskamp, S. "Psychological network analysis: estimation, inference, and stability". Invited 1-day workshop, Ulster University, Coleraine, Northern Ireland.

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### Conference Presentations & Lectures

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I was the sole presenter for all talks below and do not list talks given by co-authors. See the Publications section above for full recognition of co-authors of papers I presented on.

- 2017      "What are psychological constructs such as personality facets, intelligence, emotions, or mental disorders? Different theories require different statistical models." Invited keynote, Arbeitstagung der Fachgruppe Differentielle Psychologie, Persönlichkeitspsychologie und Psychologische Diagnostik, Munich, Germany.
- Chair for the two symposia "Investigating the heterogeneity of Major Depression with novel symptom-, factor-, and network-based models" and "Symptomics: analyzing the differential relationships of individual depression symptoms with risk factors, biological markers, and treatment response". *International Convention of Psychological Science*, Vienna, Austria.
- Three presentations at *International Convention of Psychological Science*, Vienna, Austria: "The 52 symptoms of depression: a content analysis of 7 depression rating scales"; "Depression as a complex system of causally interacting symptoms"; "An introduction to Depression Symptomics".
- "Introduction to network analysis". Invited lecture in the *Innovations in statistical methods series* at the *Research Expert Meeting*, Leiden University, The Netherlands.
- "Introduction to psychological networks." Invited talk at *Psychological Networks Amsterdam Winter School*, Amsterdam, The Netherlands.
- 2016      "The network theory of psychopathology". Invited lecture at Utrecht University, Utrecht, The Netherlands.
- "The network approach to psychopathology: opportunities for an empirically based revision of contemporary classification systems". *Association for Behavioral and Cognitive Therapies*, New York, USA.
- "Psychopathological networks: challenges and future directions". *Association for Behavioral and Cognitive Therapies*, New York, USA.

- “How to increase robustness and replicability in psychopathological network research”. *Association for Psychological Science*, Chicago, USA.
- “Psychiatric Symptomics: a novel research paradigm to study Major Depression”. Invited lecture, Center for Neurogenomics and Cognitive Research at VU University Amsterdam, The Netherlands.
- 2015 “Symptomics: a novel research paradigm for clinical psychology and psychiatry”. Invited lecture, Health & Life Sciences University, Hall, Austria.
- “Psychiatric symptomics: a new perspective on mental disorders.” Invited lecture, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands.
- “What are ‘good’ depression symptoms? A novel perspective based on the network framework”. *Association for Behavioral and Cognitive Therapies*, Chicago, USA.
- “Psychiatric symptomics: a new perspective on mental disorders”. Invited lecture, Center for Evolution and Medicine, Arizona State University, Tempe, USA.
- “A complex dynamic systems perspective on Major Depression”. Conference on Complex Systems, Tempe, USA.
- “From Loss to Loneliness: The Relationship Between Bereavement and Depressive Symptoms”. *International Convention of Psychological Science*, Amsterdam, The Netherlands.
- “Depression is more than the sum-score of its symptoms: A novel network approach to understanding depression”. Lectures in Psychology Series, University of Leuven, Belgium.
- 2014 “Novel psychopathological network models”. Invited lecture, Ludwig-Maximilians-University Munich, Child and Adolescent Psychiatry, Germany.
- “New perspectives on mental disorders: covert heterogeneity of major depressive disorder”. *Association of Psychological Science*, San Francisco, USA.
- “The impact of individual depressive symptoms on impairment of psychosocial functioning”. *International Society of Affective Disorders*, Berlin, Germany.
- 2013 “Covert heterogeneity of depression symptoms”. Lecture, University of Amsterdam, the Netherlands.
- “Breaking the wall of depression diagnosis”. *International Conference on Future Breakthroughs in Science and Society*, Berlin, Germany.
- “Heterogeneity of individual depressive symptoms in a longitudinal study of medical residents”. *European Congress of Psychology*, Stockholm, Sweden.

- “Depression is more than the sum-score of its parts: covert heterogeneity of depressive symptoms”. Invited lecture, Centre for Behaviour & Evolution, Newcastle, UK.
- 2012 “Why depression symptoms matter”. University of Michigan, Ann Arbor, USA.
- “Symptomatic heterogeneity in depression: A longitudinal study of depressive symptoms in medical residents”. *International Congress of Psychology*, Cape Town, South-Africa.
- 2009 “Statistical exploration of an evolutionary psychopathological model of depression: A game-theoretical approach”. *European Congress of Psychology*, Oslo, Norway.

#### Grants, Fellowships, & Achievements

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- 2017 Current application for NIH U01 grant
- 2016 Sentinel of Science, Publons.com.
- 2015 Travel grant: 520€, Research Foundation Flanders.
- 2014 2-year Postdoctoral Fellowship, Research Foundation Flanders.
- 2012 Research grant for collaborations abroad: 600€, Dahlem-Research-School Berlin.
- 2011 Research grant for collaborations abroad: 700€, Dahlem-Research-School Berlin.
- 2010 3.5-year Graduate Research Fellowship, German Research Foundation: 67,200€.
- 2010 Organization of the “First International Berlin Alexithymia Conference”, Free University Berlin.
- 2006 Scholarship for a semester at University of Helsinki, Finland: 3,000€.
- 2004 Co-inventor of the device “EMotion-Controller” (hardware and software) in a cyberpsychology research program (Ludwig-Maximilians-University Munich).

#### Teaching Experience & (Co-)Supervision

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- 2016-2017 8 network analysis workshops (see Workshop section above for details).
- 2016-2017 Co-instructor, “Structural equation modeling”, summer 2017, University of Amsterdam.
- 2016-2017 Instructor, “Network Analysis Seminar”, winter 2016, University of Amsterdam.
- 2016-2017 Main supervisor: Marlene Werner, research master of psychology, University of Amsterdam.
- 2016-2017 Main supervisor: Sophia von Stockert, master of psychology, University of Maastricht.



- 2016-2017 Main supervisor: George Aalbers, research master of psychology, University of Amsterdam.
- 2014-2016 Main supervisor: Kristin Freiburger, clinical psychology master of science, University of Leuven.
- 2014-2015 Main supervisor: Karen Borremans, clinical psychology master of science, University of Leuven.
- 2014-2015 Co-supervisor: Fionneke Bos, master of psychology, University of Utrecht.
- 2013-2014 Co-supervisor: Meike Nixdorf, psychology bachelor of science.
- 2011-2012 Teaching Assistant, "Evolution & Mental Disorders", fall 2011 (University of Michigan).
- 2009-2010 Instructor, "Evolutionary Psychopathology", winter 2009 & winter 2010 (Ludwig-Maximilians-University Munich).
- 2007 Teaching Assistant, "Positive Psychology", summer 2007 (Ludwig-Maximilians-University Munich).

#### University Service

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- 2007-2008 Member of the non-profit student association "Psychologie in Beruf und Praxis e.V.", organization of two Career Development Conferences for students at Ludwig-Maximilians-University Munich.
- 2006-2008 Graduate Student Representative (Ludwig-Maximilians-University Munich).
- 2003-2005 Undergraduate Student Representative (Ludwig-Maximilians-University Munich).

#### Research Interests

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In general: measurement, modeling, ontology, and nosology of psychopathology.

Clinical Psychology & Psychiatry: mental disorders with a focus on mood disorders; individual psychopathological symptoms, their differences, and causal associations.

Statistics & Psychometrics: measurement, multivariate longitudinal models, network models, structural equation models, mixture modeling.

Data visualization.

#### Contributions to Open Science

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Editor at the Open Access Journal Collabra: Clinical Psychology. Collabra is the official partner journal of the Society for the Improvement of Psychological Science (SIPS) and a partner of the Open Science Framework (OSF).

Syntax for all my papers published after 2014 available on my website.

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Since beginning of 2016, I have made preprints of my papers available on the Open Science Framework, psyArxiv, or arXiv.

Research on replicability and robustness ([URL1](#), [URL2](#)).

Freely available online resource: 3-day network analysis workshop ([URL](#)).

Publication of several datasets available for re-analysis ([URL1](#), [URL2](#), [URL3](#)).

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#### Professional Affiliations

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International Society of Affective Disorders.

Association for Psychological Science.

Division 5 for Evaluation, Measurement, & Statistics of the American Psychological Association.

Complex Systems Society.

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#### Ad Hoc Reviewing

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Molecular Psychiatry, JAMA Psychiatry, Perspectives on Psychological Science, BMC Medicine, Journal of Abnormal Psychology, Psychological Medicine, The Lancet Psychiatry, Journal of Affective Disorders, International Journal of Methods in Psychiatric Research, Comprehensive Psychiatry, Social Psychiatry and Psychiatric Epidemiology, European Journal of Psychotraumatology, Evolution and Human Behavior, PLOS ONE, Current Neuropharmacology, International Journal of Nursing Studies, The World Journal of Biological Psychiatry.

Publons reviewer profile: <https://publons.com/author/339606/Eiko-Fried>.

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#### Skills & Qualifications

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Languages: German (fluent), English (fluent), Norwegian & Dutch (enthusiastic novice).

Statistical software: R & MPLUS (focus on structural equation models, network models, and multivariate longitudinal models).

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#### Online

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Personal website & blog: <http://Eiko-Fried.com>

Network science blog: <http://psych-networks.com>

Google Scholar: <https://scholar.google.com/citations?user=DUK0qQoAAAAJ>

Researchgate: [https://www.researchgate.net/profile/Eiko\\_Fried](https://www.researchgate.net/profile/Eiko_Fried)

Publons: <https://publons.com/author/339606/Eiko-Fried>

Twitter: [@EikoFried](#)

## Hobbies & Interests

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Photography. Featured in: Abendzeitung (2008), Sueddeutsche Zeitung (2008), exhibition "What is post-modern", (2009), exhibition "Eiko Fried: 2001-2010" (2011), The Psychologist (2013), Fundiert (2013). Prizes: Berlin Photography Contest (2009), Wettbewerb deutscher Studierendenwerke (2012), Big Picture Contest June (2013).

Piano & Singing. Choir 'Hardchor Stimmgewalt', Wacken main stage with Van Canto 2014, Germany Tour with Van Canto 2014, Europe Tour with Orphaned Land 2015. Records 'Hardchor Stimmgewalt' (2014) & 'Halleluja' (2015).

Founder of DSA4.de, one of the largest German RPG websites.